SAFETY DOOR ENTRANCE

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to safety door entrances and more particularly a safety device for swinging doors which are hingedly supported from a door jamb or frame element to open and close with respect thereto. The present invention relates to a safety device for discouraging or preventing a person's fingers, toes or other implements from inadvertently being inserted into a gap created between a corner edge of the door and the door jamb while the door is opened, which gap is then closed with crushing force as the door swings closed.

2. Description of the Prior Art

Various systems have been devised for protecting against damage or injury to the fingers, toes or other implements caused from the crushing action of swinging doors or hingedly attached closure members as they swing closed. U.S. Pat. Nos. 3,319,697 and 3,941,180 disclose guards or protecting devices for hinged garage doors and the like. An extruded hinge is shown in the window construction of U.S. Pat. No. 1,925,817 and an interlocking combination door is illustrated in U.S. Pat. No. 2,960,733.

OBJECTS OF THE PRESENT INVENTION

It is an object of the present invention to provide a new and improved safety door entrance and more particularly, to provide a safety device which is highly effective to discourage insertion of fingers, toes or other objects into a gap or opening formed between the heel or corner edge of a door and the abutting door jamb whenever the door is open.

It is another object of the present invention to provide a new and improved safety door entrance of the character described which is suitable for use on doors capable of swinging from a closed position to a full open position aligned at an angle of 90° or more from the closed position.

Still another object of the present invention is to provide a new and improved safety door entrance having a detachable finger protector for continuously closing the gap formed between the heel of the door and the abutting adjacent jamb surface whenever the door is opened.

Yet another object of the present invention is to provide a new and improved safety door entrance having improved weather sealing on both faces of the door.

Still another object of the invention is to provide a new and improved safety door system wherein the hinge(s) supporting the door are covered and enclosed by a finger protecting safety shield.

Yet another object of the present invention is to provide a new and improved finger protector which is detachable and can be readily re-attached and snapped into place.

Another object of the present invention is to provide a new and improved combination of a door hingedly supported on a jamb and finger protector, wherein the jamb is readily adapted to accommodate the finger protector when the door is closed and yet is designed to support a conventional transom panel above the door.

Still another object of the present invention is to provide a new and improved safety door system suitable for use with doors having hollow tubular door stiles.

Yet another object of the present invention is to provide a new and improved safety door entrance which permits the use of simple, butt hinges and permits ready access to the hinges for servicing and maintenance thereof.

Yet another object of the present invention is to provide a new and improved safety door entrance of the character described wherein a detachable finger protector is secured to the butt edge of the door stile adjacent a jamb in a novel manner.

Yet another object of the present invention is to provide a new and improved safety door system which is neat in appearance, relatively simple in construction and operation and is relatively economical in comparison with other types of safety door entrances.

BRIEF SUMMARY OF THE INVENTION

The foregoing and other objects and advantages of the present invention are accomplished in a new and improved safety door entrance comprising, in combination, a door having opposite faces and a hinge stile element along one edge hingedly interconnected to a supporting door jamb element for swinging movement between a closed position wherein an outer door face is generally aligned with an outer face or sight line of the supporting jamb and a fully opened position wherein the outer door face is aligned at an angle of 90° or greater with respect to the outer sight line face. A novel finger protector is detachably secured on the butt edge of the hinge stile of the door and includes a curved wall section which provides for continuous bridging of the gap formed between the butt edge of the door and the adjacent door jamb whenever the door is opened. The door jamb is designed to provide a pocket for receiving the finger protector whenever the door is closed, and a pair of spaced apart weatherstrip are provided for sealing opposite faces of the door and the supporting jamb or frame while the door is both open or closed.

BRIEF DESCRIPTION OF THE DRAWINGS

For a better understanding of the present invention, reference should be had to the following detailed description taken in conjunction with the drawings, in which:

FIG. **1** is an outside, elevational view of a new and improved safety door entrance constructed in accordance with the features of the present invention;

FIG. **2** is an enlarged, horizontal, fragmentary, cross-sectional view taken substantially along lines **2—2** of FIG. **1**;

FIG. **3** is an enlarged horizontal, fragmentary, cross-sectional view taken substantially along lines **3—3** of FIG. **1**;

FIG. **4** is an enlarged horizontal, fragmentary, cross-sectional view taken substantially along lines **4—4** of FIG. **1**;

FIG. **5** is a horizontal, cross-sectional view similar to FIG. **2** but illustrating the door in a fully open position;

FIG. **6** is a fragmentary, vertical, cross-sectional view taken substantially along lines **6—6** of FIG. **2**; and

FIG. **7** is an enlarged, fragmentary, horizontal, cross-sectional view similar to FIG. **2** but illustrating an alternative embodiment of the present invention.